

Title (en)
VENTILATOR DEVICE

Title (de)
VENTILATOREINRICHTUNG

Title (fr)
DISPOSITIF DE VENTILATEUR

Publication
EP 3184826 B1 20200401 (DE)

Application
EP 16197476 A 20161107

Priority
DE 102015226575 A 20151222

Abstract (en)
[origin: US2017175747A1] A fan unit comprises at least one radial fan comprising: an impeller rotationally driven about a rotation axis; and a fan housing in which the impeller is arranged, the fan housing including a guide wall spirally extending around the fan housing in a circumferential direction of the impeller, the guide wall transitioning into air outlet openings, wherein the guide wall has spirally shaped guide wall segments in the circumferential direction, each of which transitions into one of the air outlet openings, such that the air outlet openings are distributed in the circumferential direction of the impeller.

IPC 8 full level
F04D 29/42 (2006.01)

CPC (source: CN EP US)
F04D 17/16 (2013.01 - US); **F04D 29/282** (2013.01 - US); **F04D 29/4246** (2013.01 - EP US); **F04D 29/441** (2013.01 - CN US)

Citation (examination)
US 3759627 A 19730918 - EHLINGER A

Citation (opposition)
Opponent : Emb-papst Mulfingen GmbH & CO.KG
• EP 0091228 A1 19831012 - HAMMOND ENG LTD [GB]
• FR 2220158 A5 19740927 - NEU ETS [FR]
• US 2330938 A 19431005 - BRYAN WILLIAMS EDMOND
• WO 2009021356 A1 20090219 - SHENZHEN LONGGANG JINYIXIN ELE [CN], et al
• GB 1512294 A 19780601 - FRIEDLING G [CH]
• CN 201003512 Y 20080109 - GREE ELECTRIC APPLIANCES INC [CN]
• CN 104533833 A 20150422 - ZHUHAI GREE ELEC APPLIANCES
• WO 2008080808 A1 20080710 - ARCELIK AS [TR], et al
• US 3759627 A 19730918 - EHLINGER A
• CN 2354047 Y 19991215 - CHUNLAN REFRIGERATING APPARATU [CN]
• JP 2001239118 A 20010904 - YASKAWA ELECTRIC CORP
• CN 2305507 Y 19990127 - SHANFU MECHANICAL FACTORY CO L [CN]
• CN 104566896 A 20150429 - NINGBO AUX AIR CONDITIONING CO
• CN 104131998 A 20141105 - ZOOMLION HEAVY IND SCI & TECH
• JP 2003028095 A 20030129 - ALTOPIA KK
• DE 4238595 C2 19960411 - KESSLER & LUCH GMBH [DE]
• JP 2007127050 A 20070524 - ALTOPIA KK
• DE 7238931 U 19730329
• US 2002119044 A1 20020829 - O'CONNOR JOHN F [US], et al
• DE 2556022 A1 19760624 - FRIEDLING GERARD
Opponent : TROX X-FANS GmbH
• WO 2009021356 A1 20090219 - SHENZHEN LONGGANG JINYIXIN ELE [CN], et al
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• FRITZ SCHLENDER ET AL.: "VENTILATOREN IM EINSATZ", 1996, VDI VERLAG, article "Bild 12-8", pages: 270 - 271, 314-315, XP055804539
Opponent : ZIEHL-ABEGG SE
• EP 0091228 A1 19831012 - HAMMOND ENG LTD [GB]
• FR 2220158 A5 19740927 - NEU ETS [FR]
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• GB 1512294 A 19780601 - FRIEDLING G [CH]
• US 3759627 A 19730918 - EHLINGER A
• US 2014178194 A1 20140626 - TAMAOKA TAKEHITO [JP], et al
• JP 2003028095 A 20030129 - ALTOPIA KK
• JP 2007127050 A 20070524 - ALTOPIA KK
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• CN 201003512 Y 20080109 - GREE ELECTRIC APPLIANCES INC [CN]
• CN 104533833 A 20150422 - ZHUHAI GREE ELEC APPLIANCES
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• DE 7238931 U 19730329
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DOCDB simple family (publication)
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DE 102015226575 B4 20170629; DE 102015226575 C5 20240529; DK 3184826 T3 20200615; ES 2796280 T3 20201126;
TW 201723321 A 20170701; TW I726002 B 20210501; US 10393123 B2 20190827; US 2017175747 A1 20170622

DOCDB simple family (application)
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